List of Claims:

Claim 1 (currently amended): A method of pitch enhancement in a speech compression system ~~using adaptive and fixed codebooks~~, the method comprising:

~~calculating a pitch enhancement coefficient;~~

providing a fixed ~~sub~~codebook comprising at least two fixed subcodebooks;

selecting ~~a~~ one of the at least two fixed subcodebooks ~~from among the at least two fixed subcodebooks~~; ~~and~~

calculating a pitch enhancement coefficient based on the one of the at least two fixed subcodebooks, wherein the pitch enhancement coefficient is calculated using a different formula for each of the at least two fixed subcodebooks;

applying a pitch enhancement in response to the pitch enhancement coefficient and the ~~selected~~ one of the at least two fixed subcodebooks~~, wherein the pitch enhancement coefficient is dependent on the selected fixed subcodebook~~.

Claim 2 (currently amended): The method of claim 1, where applying a pitch enhancement further comprises calculating a pitch~~ed~~-enhanced signal from a codevector selected from the ~~selected~~ the one of the at least two fixed subcodebooks, a pitch lag, and the pitch enhancement coefficient.

Claim 3 (original): The method of claim 1, further comprising calculating the pitch enhancement coefficient based on a pitch gain.

Claim 4 (currently amended): The method of claim 2, where the signal is calculated during a search through the one of the at least two fixed subcodebooks.

Claim 5 (currently amended): The method of claim ~~1~~ 2, where the signal is calculated during an iterative search through the one of the at least two fixed subcodebooks.

Claim 6 (original): The method of claim 1, where the pitch enhancement coefficient is a mathematical factor from 0.0 to 1.0.

Claim 7 (original): The method of claim 1, where the pitch enhancement is applied both forward and backward.

Claim 8 (original): The method of claim 7, where the pitch enhancement coefficient is applied to pulses selected from the group consisting of forward, backward, and forward and backward pitch pulses, of a main pulse.

Claim 9 (original): The method of claim 8, where pitch enhancement coefficient is applied to a first power.

Claim 10 (currently amended): A ~~The~~ method of ~~claim 8,~~ pitch enhancement in a speech compression system, the method comprising:

providing a fixed codebook comprising at least two fixed subcodebooks;

selecting one of the at least two fixed subcodebooks;

calculating a pitch enhancement coefficient dependent upon the one of the at least two fixed subcodebooks;

applying a pitch enhancement in response to the pitch enhancement coefficient and the one of the at least two fixed subcodebooks;

where the pitch enhancement is applied both forward and backward, where the pitch enhancement coefficient is applied to pulses selected from the group consisting of forward, backward, and forward and backward pitch pulses, of a main pulse, and where pitch

enhancement coefficient is applied to a first power for pulses one pitch lag away from the main pulse, and the pitch enhancement coefficient are applied to a second power for pulses two pitch lags away from the main pulse.

Claim 11 (currently amended): The method of claim 10 ~~in processing for a frame classified as type 0 for a first fixed subcodebook~~, where the pitch enhancement coefficient is 0.75 . g_{a_m}, where the value of 0.75 . g_{a_m} is constrained to be between 0.5 and 1.0, inclusive, where g_{a_m} is a quantized long term predictor gain of a previous subframe.

Claim 12 (currently amended): The method of claim 10 ~~in processing for a frame classified as type 0 for a second fixed subcodebook~~, where the pitch enhancement coefficient is 0.25 . g_{a_m} and the value of 0.25 . g_{a_m} is constrained to be between 0.0 and 0.5, inclusive, where g_{a_m} is a quantized long term predictor gain of a previous subframe.

Claim 13 (currently amended): The method of claim 10 ~~in processing for a frame classified as type 0 for a third fixed subcodebook~~, where the pitch enhancement coefficient is 0.

Claim 14 (currently amended): The method of claim 10 ~~in processing for a frame classified as H1 for a first fixed subcodebook~~, where the pitch enhancement coefficient is 1.0 . g_a and the value of 1.0 . g_a is constrained to be between 0.5 and 1.0, inclusive, where g_a is a quantized pitch gain.

Claim 15 (currently amended): The method of claim 10 ~~in processing for a frame classified as H1 for a second fixed subcodebook and a third fixed subcodebook~~, where the pitch enhancement coefficient is 0.5 . g_a and the value of 0.5 . g_a is constrained to be between 0.0 and 0.5 inclusive, where g_a is a quantized pitch gain.

Claim 16 (currently amended): The method of claim 1 ~~for a frame classified as type 0~~, where the ~~steps of~~ selecting ~~a~~ the one of the at least two fixed subcodebooks and the calculating ~~a signal~~ the pitch enhancement coefficient are accomplished by using at least one factor selected from the group consisting of a pitch correlation, a residual sharpness, a noise-to-signal ratio, and a pitch lag.

Claim 17 (original): The method of claim 1, where the method is applied to a selectable mode vocoder (SMV) system.

Claim 18 (original): The method of claim 1, where the method is applied to a code-excited linear prediction (CELP) system.

Claim 19 (currently amended): A speech coding system ~~using adaptive and fixed codebooks,~~ comprising:

~~a pitch enhancement coefficient;~~

a fixed codebook comprising at least two fixed subcodebooks; and

a pitch enhancement coefficient calculated based on the one of the at least two fixed subcodebooks, wherein the pitch enhancement coefficient is calculated using a different formula for each of the at least two fixed subcodebooks;

a pitch enhancement based on the pitch enhancement coefficient and the ~~selected~~ one of the at least two fixed subcodebooks~~, wherein the pitch enhancement coefficient is dependent on the selected fixed subcodebook~~.

Claim 20 (currently amended): The speech coding system of claim 19, where the pitch enhancement comprises a pitch-enhanced signal calculated from a pitch lag, a codevector

selected from ~~a~~ the one of the at least two fixed subcodebooks ~~selected from among the at least two subcodebooks~~, and the pitch enhancement coefficient.

Claim 21 (original): The speech coding system of claim 19, where the pitch enhancement coefficient is based on a pitch gain.

Claim 22 (currently amended): The speech coding system of claim ~~19~~ 20, where the pitch-enhanced signal is calculated during a search through the one of the at least two fixed subcodebooks.

Claim 23 (currently amended): The speech coding system of claim ~~19~~ 20, where the pitch-enhanced signal is calculated during an iterative search through the one of the at least two fixed subcodebooks.

Claim 24 (original): The speech coding system of claim 19, where the pitch enhancement coefficient is a mathematical factor from 0.0 to 1.0.

Claim 25 (original): The speech coding system of claim 19, where the pitch enhancement is applied forward and backward.

Claim 26 (original): The speech coding system of claim 25, where the pitch enhancement coefficient is applied to pulses selected from the group consisting of forward, backward, and forward and backward pitch pulses of a main pulse.

Claim 27 (original): The speech coding system of claim 26, where the pitch enhancement coefficient is applied to a first power in calculating the signal.

Claim 28 (currently amended): ~~The~~ A speech coding system ~~of claim 26,~~ comprising:

a pitch enhancement coefficient;

a fixed codebook comprising at least two fixed subcodebooks; and

a pitch enhancement based on the pitch enhancement coefficient and the one of the at least two fixed subcodebooks, wherein the pitch enhancement coefficient is dependent on the selected fixed subcodebook, where the pitch enhancement is applied forward and backward;

where the pitch enhancement coefficient is applied to pulses selected from the group consisting of forward, backward, and forward and backward pitch pulses of a main pulse;

where the pitch enhancement coefficient is applied to a first power for pulses one pitch lag away from the main pulse, and the pitch enhancement coefficient is applied to a second power for pulses two pitch lags away from the main pulse.

Claim 29 (currently amended): The speech coding system of claim 28 ~~for a frame classified as type 0 for a first fixed subcodebook~~, where the pitch enhancement coefficient is 0.75 . g_{a_m} and the value of 0.75 . g_{a_m} is constrained to be between 0.5 and 1.0, inclusive, where g_{a_m} is a quantized gain of a previous subframe.

Claim 30 (currently amended): The speech coding system of claim 28 ~~for a frame classified as type 0 for a second fixed subcodebook~~, where the pitch enhancement coefficient is 0.25 . g_{a_m}, and the value of 0.25 . g_{a_m} is constrained to be between 0.0 and 0.5, inclusive, where g_{a_m} is a quantized long term predictor gain of a previous subframe.

Claim 31 (currently amended): The speech coding system of claim 28 ~~for a frame classified as type 0 10 for a third fixed subcodebook~~, where the pitch enhancement coefficient is 0.

Claim 32 (currently amended): The speech coding system of claim 28 ~~for a frame classified as H1, for a first fixed subcodebook~~, where the pitch enhancement coefficient 1.0 . g_a

and the value of 1.0 . g_a is constrained to be between 0.5 and 1.0, inclusive, where g_a is a quantized pitch gain.

Claim 33 (currently amended): The speech coding system of claim 28 ~~for a frame classified as H1, for a second fixed subcodebook and a third fixed subcodebook~~, where the pitch enhancement coefficient is 0.5 . g_a and the value of 0.5 . g_a is constrained to be between 0.0 and 0.5 inclusive, where g_a is a quantized pitch gain.

Claim 34 (currently amended): The speech coding system of claim 19 ~~for a frame classified as type 0~~, where the algorithm uses at least one factor selected from the group consisting of a pitch correlation, a residual sharpness, a noise-to-signal ratio, and a pitch lag in calculating the signal.

Claim 35 (original): The speech coding system of claim 19, where the speech compression system is a selectable mode vocoder (SMV) system.

Claim 36 (original): The speech coding system of claim 19, where the speech compression system is a code excited linear prediction (CELP) system.

Claim 37 (original): A device using the speech coding system of claim 35, where the device is selected from the group consisting of a telephone, a mobile telephone, a cellular telephone, and a portable radio transceiver.

Claim 38 (original): The device of claim 35, where at least one of an encoder and a decoder are provided on a digital signal processor (DSP) chip.

Claim 39 (original): The device of claim 38, further comprising a communications medium interface operatively connected to provide a bitstream from the encoder to a communications medium.

Claim 40 (original): The device of claim 38, further comprising a signal transformation device to provide speech to the encoder.

Claim 41 (original): The device of claim 39, where the communications medium is one of a radio frequency, a microwave transmission, and an optical transmission.